

REMARKS

Claims 1-18 are currently pending. Claims 1-3, 5, 8-10, 12 and 15 have been amended. None of the claim changes are intended to narrow the scope of the affected claim elements. The changes to claims 1-2, 5, 8-9, 12 and 15 have been made for readability and are not intended to be related to patentability. New claims 16-18 have been added. The specification has been amended at pages 2 and 3 in conformity with certain claim changes. Reconsideration of this application is respectfully requested.

Request for PTO-892 Listing U.S. Patent No. 5,553,167

Applicants have observed that U.S. Patent No. 5,553,167, which was applied a prior art rejection by the Office, was not listed on the PTO-892 form received with the Office Action. Applicants respectfully request that the Office provide a PTO-892 form listing U.S. Patent No. 5,553,167 to ensure that U.S. Patent No. 5,553,167 is listed on the face of any patent issuing from the present application.

35 U.S.C. § 112, Second Paragraph, Rejection

The Office Action includes a rejection of claims 3 and 10 under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. Claims 3 and 10 have been amended to address the rejection, the amendments being consistent with the Examiner's stated understanding of those claims. These claim amendments are not intended to narrow the scope of the claims 3 and 10. Withdrawal of the rejection is respectfully requested.

Prior Art Rejections

The Office Action includes a rejection of claim 15 under 35 U.S.C. § 102(b) as allegedly being anticipated by the Fukuchi publication (JP 11-317887). This rejection is respectfully traversed.

Claim 15 recites an image processing apparatus comprising a first circuit having a rewritable configuration, and having a plurality of line memories. The apparatus also comprises a second circuit for processing image data output from the line memories, and a memory for storing setting information for rewriting the configuration of the first circuit. The apparatus further comprises a controller for rewriting a configuration of the line memories of the first circuit by use of the setting information stored in the memory based on an image processing condition.

For example, as noted at page 6, lines 6-16 of the present application, a user can set, with an operation panel, the image processing condition, which can be for instance, an output image size (e.g., an output sheet size) mode, a processing speed, or an image quality mode of a given output device, such as a printer. It will be apparent that for a given output device, such as a printer, the image processing condition can be selected from multiple values (e.g., a particular output sheet size can be selected from among a plurality of available output sheet sizes). A configuration of line memories are reconfigured based on the image processing condition, and image data can be output to a given output device, such as a printer. Such an image processing apparatus can be connected to more than one output device, and image processing conditions, such as described above, can be selected as desired. Of course, the claims are not intended to be limited to these examples.

In contrast, the Fukuchi publication discloses (see Figure 2 therein) an image processing system comprising an image processing circuit 11/ FPGA (field programmable gate array) wherein the image processing circuit is written according to the type of output equipment/connection device connected to the system. In particular, mode-of-operation data corresponding to different types of connection devices/output equipment 2 are stored in an SRAM 16 (paragraphs 16 and 17 of the translation), and a check is performed on the type of output equipment connected to the system (paragraph 20). The type of output equipment that has been detected is then compared to the mode-of-operation data (corresponding to different device types) stored in SRAM 16, and the image processing circuit 11 is written by the CPU 14 according to the type of output equipment 2 connected to the system (paragraphs 14 and 22). The actual circuit configuration data for writing the FPGA 11 are stored in, and read from, ROM 15 (paragraph 17).

The Office suggests that the Fukuchi publication discloses rewriting a configuration of line memories based on an image processing condition, as recited in claim 15. Applicants respectfully disagree. In particular, the Office cites the Fukuchi FIFO circuits 50 and 60 as corresponding to the claimed line memories, but Applicants see no disclosure in the Fukuchi publication that FIFO circuits 50 and 60 disclosed therein are reconfigured. Rather, there is a broad disclosure in the Fukuchi et al. patent that the image processing circuit 11 is written in accordance with the type of output equipment 2 connected to the system (paragraph 22), but Applicants see no disclosure that the FIFO circuits 50 and 60 are rewritten.

Rather, the discussion in the Fukuchi publication in connection with the FIFO circuits 50 and 60 relates to combining a picture block 41 and a picture block 42 into

a picture block 43 (Figure 8), and using an FIFO circuit to adjust for a delay time that may exist between the picture block 41 and the picture block 42 (e.g., paragraphs 28-30). Applicants see no disclosure relating to this subject matter suggesting that the FIFO circuits 50 and 60 are rewritten.

For at least the above-noted reasons, Applicants respectfully submit that claim 15 is not anticipated by the Fukuchi publication. Withdrawal of the rejection and allowance of claim 15 are respectfully requested.

The Office Action includes a rejection of claims 1-14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over the Fukuchi publication in view of the Dowling patent (U.S. Patent No. 5,553,167). This rejection is respectfully traversed.

Applicants respectfully submit that the Office's rejection does not make out a *prima facie* case of obviousness. First, even if, for the sake of argument, the Fukuchi image processing system were hypothetically modified to implement, within the image processing circuit/FPGA 11, a filter as disclosed in the Dowling patent, the resulting hypothetical apparatus would not possess the features recited in independent claims 1 and 8. Among other things, claims 1 and 8 recite rewriting a configuration of line memories based on an image processing condition. In contrast, as noted above in connection with claim 15, the Fukuchi publication does not disclose this subject matter. Moreover, the Office's reliance on the Dowling patent does not make up for this deficiency. Accordingly, even if combined, the applied references would not render independent claims 1 and 8 obvious. Withdrawal of the rejection and allowance of independent claims 1 and 8, as well as dependent claims 2-7 and 9-14, are requested for at least this reason.

In addition, Applicants respectfully submit that the rejection does not set forth proper motivation for combining the disclosures of the applied references. The Office acknowledges that the Fukuchi publication does not disclose a filtering circuit as recited in claim 1 (or a processing circuit that performs filtering as recited in claim 8), and alleges that the Dowling patent discloses using a FPGA to implement a filter (citing col. 10, lines 10-15). The Office further suggests that one of ordinary skill in the art would have been motivated to implement the Dowling filter in the Fukuchi image processing circuit/FPGA to allow using the Fukuchi FPGA as a filter and to simply the system and enhance heat reduction and cost savings.

The Office's motivation for the hypothetical modification is facially flawed at least because the Office has provided no reason from the prior art for providing the Dowling filter in the Fukuchi image processing system in the first place. In other words, the Office notes that the Fukuchi image processing system does not disclose a filter circuit or a processing circuit as recited in claims 1 or 8, and then simply asserts that one of ordinary skill would have been motivated modify the Fukuchi system to include a filter of the type disclosed in the Dowling patent without providing any reason for doing so. The Office's further indication that providing the filter in a FPGA can simply the system and enhance heat reduction and cost savings does not make the rejection proper because the Office has given no reason for providing the filter in the first place. Accordingly, Applicants respectfully submit that the Office has not set forth proper motivation for the hypothetical modification. Withdrawal of the rejection and allowance of independent claims 1 and 8, as well as dependent claims 2-7 and 9-14, are requested for at least this reason.

In addition, Applicants submit that the applied references contain no motivation for providing the Dowling filter in the Fukuchi image processing system. The filter disclosed in the Dowling patent is an adaptive thresholding filter (see, e.g., Abstract), i.e., a thresholding filter whose threshold changes in accordance with the data being processed. Such adaptive filters are useful in image processing situations where illumination is not uniform or where an image is taken with a camera having a non-uniform response (col. 1, lines 23-33). Such filters can be used in connection with reading barcodes, such as illustrated in Figure 11 (col. 9, lines 40-49). In contrast as noted above, the Fukuchi publication is directed to an image processing system wherein the image processing circuit/FPGA can be written in accordance with the type of output equipment connected to the system. Applicants see no disclosure in either the Fukuchi publication or the Dowling patent that would suggest combining an adaptive thresholding filter with the Fukuchi image processing system. In other words, what is the connection between these references that would cause one of ordinary skill in the art to modify the Fukuchi system to include an adaptive thresholding filter? The Office's rejection is silent on this matter, and Applicants see no suggestion for such a modification. Withdrawal of the rejection and allowance of independent claims 1 and 8, as well as dependent claims 2-7 and 9-14, are requested for at least this reason.

Applicants note that the obviousness rejection contains language suggesting that the Office may be relying on Official Notice. In particular, at page 4, lines 12-13, the rejection states, "However, such features are well known in the art as evidenced by Dowling." If the Office intended to invoke Official Notice, Applicants respectfully traverse the same, noting that the Office has provided no motivation for modifying

the Fukuchi system to include features that are allegedly "well known", as discussed above, and further noting that the Dowling patent itself provides no motivation for the Office's suggested modification.

In addition, the dependent claims present subject matter that is distinguishable over the applied references. For example, claims 2 and 9 recite that the image processing condition is an output image size, and 3 and 10 recite that the image processing condition is a processing speed. Contrary to the Office's suggestion, neither of the applied references disclose this subject matter, considering at least that this subject matter, in combination with respective independent claims, requires, among other things, rewriting line memories based on such image processing conditions. As for claims 3 and 11, Applicants traverse the Office reliance on Official Notice, which is not entirely understood, but which appears to assert that it is well known to provide various choices to a user where there is a limitation on storage capacity and where time is more of a priority than image quality. If the Office is suggesting that it is well known to rewrite line memories based on a processing speed, Applicants request that the Office cite a prior art reference in support so that Applicants can properly assess the content of the prior art in this context.

In addition, contrary to the Office's suggestion, the Fukuchi publication does not disclose an operation panel for setting the image processing condition, as recited in claims 4 and 11. The "mode operation S4" alleged by the Office to correspond to the claimed operation panel is actually a process step in which mode-of-operation data corresponding to the detected output equipment 2 is compared to mode-of-operation data saved in SRAM 16 (see paragraph 22 of the Fukuchi publication

translation). There is no operation panel associated with this step. As a result, the Fukuchi publication cannot disclose a controller that rewrites a circuit configuration in accordance with an operation mode set with the operation panel, as recited in claims 5 and 12. Thus, claims 4, 5, 11 and 12 are further distinguishable for at least these reasons.

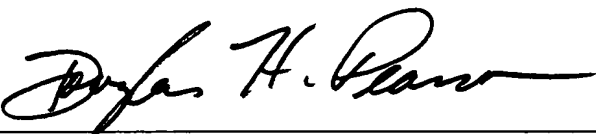
New dependent claims 16-19 have been added herein to round out the scope of protection being sought. These claims, which depend from independent claims 1, 8 and 15, respectively, recite that the image processing condition is selectable from multiple values for a given output device. As noted at page 8 of this Amendment (and see, e.g., page 6, lines 6-16 of the present application), a user can set, with an operation panel, the image processing condition, which can be for instance, an output image size (e.g., an output sheet size) mode, a processing speed, or an image quality mode of a given output device, such as a printer. It will be apparent that for a given output device, such as a printer, the image processing condition can be selected from multiple values (e.g., a particular output sheet size can be selected from among a plurality of available output sheet sizes). Thus, in combination with their respective independent claims, which recite that the line memories are rewritten based on the image processing condition, claims 16-18 recite that multiple values of the image processing condition are available for a given output device. In contrast, in the Fukuchi image processing system, the image processing circuit/FPGA 11 is rewritten based on the type of output device that is connected and detected. Thus, claims 16-18 present additional subject matter that is distinguishable over the Fukuchi publication. Allowance of these claims are respectfully requested at least for this reason and by virtue of their dependency.

In light of the above, Applicants respectfully request that the rejections of record be withdrawn and that the above-identified application be allowed. Should there be any questions in connection with this matter, the Office is invited to contact the undersigned at the number given below.

Respectfully submitted,

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